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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR  | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|-----------------------|---------------------|------------------|
| 10/757,714   | 01/14/2004  | Christopher J. Pettey | NEXTIO.0300         | 3838             |
| 23669  | 7590        | 01/03/2006            | EXAMINER            |                  |
| HUFFMAN LAW GROUP, P.C.<br>1832 N. CASCADE AVE.<br>COLORADO SPRINGS, CO 80907-7449 |             |                       | NGUYEN, BRIAN D     |                  |
|  |             |                       | ART UNIT            | PAPER NUMBER     |
|  |             |                       | 2661                |                  |

DATE MAILED: 01/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/757,714

Applicant(s)

PETTEY ET AL.

Examiner

Brian D. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-50 and 54 is/are rejected.
- 7) ☒ Claim(s) 51-53 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/1/05 &amp; 9/22/05</u> | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: “402” in figure 4. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1-25 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. A packet is a non-functional descriptive material because a packet is mere arrangement of data that include a header and a payload. Nonfunctional descriptive material includes but is not limited to music, literary works and a compilation or mere arrangement of data. When nonfunctional descriptive material is recorded on some

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computer-readable medium, it is not statutory since no requisite functionality is present to satisfy the practical application requirement. Merely claims non-functional descriptive material stored in a computer readable medium does not make the invention eligible for patenting.

4. Claims 26-35 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Same as a packet, an OS Domain header is a non-functional descriptive material because a header is mere arrangement of data that include an arrangement of bits.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 36-39, 41-49, and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Franke et al (2004/0117536) in view of Abjanic et al (2003/0069975).

Regarding claim 36, Franke discloses a method and a system comprising a root complex (processor module/blade 102, 104, 106, 108 in figure 1) for a packet within a load/store fabric to allow for sharing of input/output (I/O) endpoints (SWA, SWB, SWC, SWD) within the load/store fabric, wherein the switch 110 switches a packet received from SWA, SWB, SWC, or SWD to at least one of PM 102, 104, 106, and 108 (see figure 1). Franke does not explicitly disclose: providing an architecture for the packet; and providing a field for inclusion in the packet to identify the root complex for the packet; wherein the input/output (I/O) endpoints

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utilize the field provided in the step of providing a field to identify the root complex for the packet. However, using information, such as destination address, in the header field of a packet to route the packet to its destination is well known in the art. Abjanic discloses providing an architecture for the packet (a packet includes a header and a payload); and providing a field for inclusion in the packet to identify the root complex for the packet (IP address, MAC address, destination address); wherein the input/output (I/O) endpoints utilize the field provided in the step of providing a field to identify the root complex for the packet (see figure 1 and paragraph 0028 where Abjanic discloses, for example, using the destination address to switch the packet to the server/root complex 150, 160, and 170). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to utilize the provided field to identify the server/root complex for the packet as taught by Abjanic in the system of Franke in order to route the packet to its correct destination.

Regarding claims 37 and 38, Franke discloses the root complex comprises a network computer server (see a chassis of blade servers in paragraph 0040).

Regarding claim 39, Franke discloses the root complex (processor) comprises an operating system domain (see paragraph 0039 where Franke discloses CPU 308 includes operating system).

Regarding claims 41-45, Franke discloses the I/O endpoints (SWA, SWB, SWC, and SWD in figure 1) include Ethernet controller, fiber channel controller, or any of the well known types (see paragraph 0032).

Regarding claim 46, Franke discloses a method and a system for transferring a packet from a shared I/O endpoint (SWA, SWB, SWC, SWD) to one of a plurality of OS domains

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(processor blades 102, 104, 106, 108), wherein a shared I/O switch (switch 110 in figure 1) received, examined, and determined a port to transfer the packet to the one of the domains (see figure 1). Franke does not specifically disclose embedding an OS Domain number with the packet to associate the packet with one of the plurality of OS Domains; transferring the packet with the embedded OS Domain number to a shared I/O switch; examining the embedded OS Domain number to determine a port within the shared I/O switch associated with the one of the plurality of OS Domains; and transferring the packet to the one of the plurality of OS domains using the port. However, Abjanic discloses these limitations (see, for example, figure 1 and paragraph 0039-0041 where the switch 165 received the packet with an OS domain number (destination address) from director 145 and route the packet to the one of the OS domains (servers). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to examine and determine a port to route that packet to the OS domain as taught by Abjanic in the system of Franke in order to route the packet to its correct destination.

Regarding claim 47, Franke discloses the I/O endpoints (SWA, SWB, SWC, and SWD in figure 1) include Ethernet controller (see paragraph 0032).

Regarding claims 48 and 49, Franke discloses each of the plurality of domains comprises a processing complex comprises one or more processor and a memory (see figure 3).

Regarding claim 54, Franke discloses the port couples the shared I/O switch to the one of the plurality of OS domains (see, for example, figure 1 where the shared I/O switch is connected to the OS domains (102). Note that the switch 110 includes a plurality of ports to connect to SWA, SWB,... and PM 102, PM104...).

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7. Claims 40 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Franke in view of Abjanic as applied to claims 36 and 46 above, and further in view of Peebles (2004/0013124).

Regarding claims 40 and 50, Franke does not specifically disclose the bus is a PCI express. However, to use PCI express or any other standards is a matter of choice. Peebles discloses a system that conforms to any suitable standard including PCI express (see paragraph 0014). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the PCI express as taught by Peebles in the system of Franke in order to meet the design criteria of a particular implementation.

#### ***Allowable Subject Matter***

8. Claims 51-53 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

9. Applicant's arguments filed 9/1/05 have been fully considered but they are not persuasive.

The applicant argued that *what is being shared by the processor blades in Franke are Ethernet switches. Ethernet switches are devices which are NOT part of the load/store fabric of the processor blades. Rather, they are devices which, in Franke, cannot be mapped into the load/store architecture of the processor blades, nor can they be utilized by the processor blades*

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*via load/store instructions. They simply receive Ethernet packets (which are NOT part of the load/store fabric of the processor blades), and switch the Ethernet packets according to prior art TCP/V protocols and the applicant direct the examiner's attention to Figure 4 of applicant's specification. In Figure 4, in a departure from the prior art, and from Franke, what is shown are a number of "endpoint" 440, 442, 444 which ARE part of the load/store fabric of the blades 408, 406, 404, and which are shared by the root complexes. The examiner disagrees because as shown in figure 4, endpoints 440, 442, and 444 is part of 402 and not parts of blades 404, 406, or 408. By comparing figure 4 with figure 1 of Franke, blades 404, 406, and 408 are equivalent with blades 102, 104, 106, and 108; shared switch 420 is equivalent with shared switch 110; endpoints 440, 442, and 444 are equivalent with SWA, SWB, SWC, and SWD; and 402 is equivalent to 101.*

### ***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,



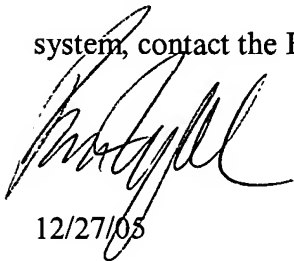
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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian D. Nguyen whose telephone number is (571) 272-3084. The examiner can normally be reached on 7:30-6:00 Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (571) 272-3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



12/27/05

**BRIAN NGUYEN**  
**PRIMARY EXAMINER**